

## ABSTRACT

A method of mapping internet protocol (IP) based data and signalling data for forming a single connection between a mobile handsets in a code division multiple access (CDMA) system. Two or more sets of physical channels are used, in which each of the physical channels in each set has the same spreading factor as other physical channels in that set. The IP-based data including header data and application data, each of the header data, signalling data and application data are assigned to at least one transport channel ("TrCH"). At least a first one of the transport channels is mapped to a first one of the sets of physical channels. Simultaneously, at least a second one of the transport channels is mapped to a second one of the sets of physical channels.